



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289,346	04/09/1999	LINDA HANLEY-BOWDOIN	5051-458	8481

20792 7590 06/17/2003

MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

EXAMINER

HELMER, GEORGIA L

ART UNIT	PAPER NUMBER
----------	--------------

1638

23

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/289,346

Applicant(s)

HANLEY-BOWDOIN ET AL.

Examiner

Georgia L. Helmer

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 60-86 is/are pending in the application.
- 4a) Of the above claim(s) 78-86 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 60-77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 January 2003 has been entered.
2. Applicant has canceled claims 42-48 and 50-54. Claims 60-86 have been added. Claims 60-86 are pending. Claims 78-86 are withdrawn as being drawn to nonelected inventions (see below). Claims 60-77, as restricted below, are examined in the instant action.
3. All rejections not addressed below have been withdrawn.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

5. Newly submitted claims 60-78 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The claims recite polynucleotide sequences SEQ ID NO: 12, 13, 14, and 15. Inventions SEQ ID NO: 12-15 are unrelated. Inventions are unrelated if it can be shown that they are not disclosed

as capable of use together or they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the inventions have different modes of operation, different functions, or different effects—the different inventions are different polynucleotide sequence, which have different physical, biochemical and molecular characteristics.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 60-77 as drawn to SEQ ID NO: 12-15 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Applicant requests Rejoinder of new claims 78-86, saying that according to the rules as set for in MPEP 821-04, if allowable subject matter is found in the pending composition claims, then claims reciting methods directed to using the claimed compositions and having all of the limitations as set forth in the allowed claims are to be rejoined and examined on the merits in the same application. Applicant requests the opportunity to introduce new claims 78-86 for examination in this Application that are directed to methods of making a transgenic plant having increased resistance to geminivirus infection, comprising the use of the compositions of the pending claims.

While method claims may be rejoined in accordance with *In re Ochiai* with product claims, when allowable subject matter is indicated, allowable subject matter is

not indicated at this time. Accordingly, claims 78-86 are considered nonelected and are not examined at this time.

Claim Rejections - 35 USC § 112 second

6. Claims 60-77 are rejected as failing to particularly point out and distinctly claim the subject matter the applicant regards as his invention.

In Claim 60-62, 66-68, and 72-74 and all claims dependent thereon,

- It is unclear whether recitations within the parentheticals are limitations in the claim, or how they further limit the claims. It is suggested that all parenthetical recitations be deleted.

In claims 60, 67, and 73, "Rb" is an abbreviation or an acronym. The full name should be spelled out at least once, preferably at the first recitation of the abbreviation. This should be followed by the abbreviation in parentheses; suggested language is "the retinoblastoma (Rb) binding region".

In claims 61-62,

- In these dependent claims, the meaning of "the nucleic acid of claim 60, further comprising a nucleotide sequence comprising a mutation in the oligomerization domain where by the nucleotide is selected the group consisting of" a second group of SEQ ID Nos, is unclear. Are there duplicated domains in one protein? These claims imply that the nucleic acid of claim 61 is in addition to that of claim 60, so that the nucleic acid has two SEQ ID Nos somewhere on the same piece of DNA. But no

Art Unit: 1638

physical details of this relationship of the two nucleic acid sequences are given. So this can mean the 2nd nucleic acid is in front of (5') or behind (3'), adjacent or non- adjacent, to the 1st nucleic acid, or in any other configuration, or even in a different codon reading frame. This is confusing and ambiguous.

- It is noted that all Applicant's SEQ ID Nos (SEQ ID NO: 1-10) refer to the same domain (see Figure 1), but that Applicant seems to be referring to specific mutant sequences.

The same problem exists for claims 67-68, and for 73-74.

In claims 60-77,

- "a nucleotide sequence encoding a mutant AL1 protein" is ambiguous because the number of mutations in the mutant AL1 is not specified.

In claims 62, 68, and 72, "the AL1 promoter" lacks antecedent basis.

Correction/clarification is required.

Claim Rejections - 35 USC § 112-written description

7. Claims 61, 62, 64, 65, 67, 68, 70, 71, 73, 74, 76, and 77 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The rejected subject matter is a "nucleotide sequences encoding a mutant

Art Unit: 1638

AL1 protein, wherein said nucleotide sequence comprises a mutation" in a specified region and having a recited function, where the nucleic acid comprises a selected SEQ ID NO, "further comprising a nucleotide sequence comprising a mutation" in a different region, where the SEQ ID NO: is selected from an additional group of SEQ ID Nos.

Applicant is invited to point out the page(s) and line number(s) in the specification where "nucleotide sequences encoding a mutant AL1 protein, wherein said nucleotide sequence comprises a mutation in a specified region and having a recited function, where the nucleic acid comprises a selected SEQ ID NO, further comprising a nucleotide sequence comprising a mutation in a different region, where the SEQ ID NO: is selected from an additional group of SEQ ID Nos" can be found. Absent such support, Applicant is required to cancel the new matter in response to this Office Action.

Claim Rejections - 35 USC § 112 first paragraph-Enablement

8. Claims 61, 62, 64, 65, 67, 68, 70, 71, 73, 74, 76, and 77 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the nucleotide sequences comprising an individual SEQ ID NO, does not reasonably provide enablement for multiple sequences further comprising an additional SEQ ID NO. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Enablement is considered in view of the *Wands* factors (MPEP 2164.01(a)).

Applicant claims a "nucleotide sequences encoding a mutant AL1 protein, wherein said nucleotide sequence comprises a mutation in a specified region and having a recited function, where the nucleic acid comprises a selected SEQ ID NO, further comprising a nucleotide sequence comprising a mutation in a different region, where the SEQ ID NO: is selected from an additional group of SEQ ID Nos.

Applicant teaches nucleic acids comprising each of the SEQ ID Nos 2-10 individually, each having a recited function. Applicant gives information about mutants and phenotypes for single SEQ ID Nos 2-10 (pages 21 and 22, Tables 1 and 2, specification). Also, see Figures 3-7, and pages 6-8, specification. Applicant does not teach nucleic acids comprising each of the SEQ ID Nos 2-10 individually, further comprising a nucleotide sequence comprising a mutation in a different region, where the SEQ ID NO is selected from an additional group of SEQ ID Nos.

The state of the art is that one skilled in the art can readily make nucleic acid constructs and express polypeptides. However constructing nucleic acids comprising an additional nucleic acid sequence over and above the initial SEQ ID No, and having that nucleic acid maintain the desired function, with no guidance given for the configuration or physical details of the relationship of the two nucleic acid sequences to each other would require undue experimentation and constitutes an undue burden. Applicant has provided no guidance on how to predictably eliminate inoperable embodiments from a virtually ad infinitum of possibilities other than by random trial and error, which is excessive experimentation and an undue burden.

In view of the breadth of the claims (nucleotide sequences encoding a mutant AL1 protein, wherein said nucleotide sequence comprises a mutation in a specified region and having a recited function, where the nucleic acid comprises a selected SEQ ID NO:, further comprising a nucleotide sequence comprising a mutation in a different region, where the SEQ ID NO: is selected from an additional group of SEQ ID Nos.), the nature of the invention, the unpredictability of the art, the lack the lack of guidance in the specification, undue trial and error experimentations would be required to enable the invention as commensurate in scope with the claims.

Remarks

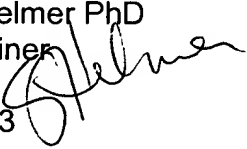
9. No claims are allowed.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Georgia L. Helmer whose telephone number is 703-308-7023. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on 703-306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4242 for regular communications and 703-308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Georgia L. Helmer PhD
Patent Examiner
Art Unit 1638
June 16, 2003




PHUONG T. BUI
PRIMARY EXAMINER 6/16/03